

In the Claims:

1. (original) A method used in the control of a physical system, comprising the steps of
 - (a) modelling a risk chain, the risk chain being a series of two or more entities that each model a discrete part of how a threat leads to damage to a target system, each entity being described as a population of elements distributed in a parameter or parameters, each entity generating the next entity in the chain; and
 - (b) controlling the physical system by using results of the modelling.
2. (original) The method of Claim 1 in which the way one entity in the risk chain generates another entity in the risk chain is described by a quantitative generation function.
3. (currently amended) The method of Claim 1 [or 2] comprising the further step of modelling countermeasures to one or more entities in the risk chain, each countermeasure being quantitatively described as a function of one or more variables.
4. (original) The method of Claim 3 comprising the further step of deploying a countermeasure to an entity in such a manner so that the effect of the entity is diminished to a defined, quantitative level.

5. (currently amended) The method of ~~any preceding~~ Claim 3 [or 4] in which the or each variable describing a countermeasure determines the efficacy of that countermeasure in modifying the population of elements in an entity or influencing how one entity in the risk chain generates another entity in the risk chain.
6. (currently amended) The method of Claim 3[, 4 or 5] in which the deployment of countermeasures is quantitatively optimised.
7. (currently amended) The method of ~~any preceding~~ Claim 1 in which the distribution of elements of an entity in a parameter is a measured distribution.
8. (original) The method of Claim 7 in which the measured distribution is a real-time measured distribution.
9. (currently amended) The method of Claim 7 [or 8] in which the measured distribution is compared to a predicted distribution, the comparison enabling the accuracy of an algorithm used to make the prediction to be improved.
10. (currently amended) The method of ~~any preceding~~ Claim 1 in which the controlled system is controlled by being dynamically altered on the basis of the modelling.

11. (original) The method of Claim 10 in which the controlled system is dynamically altered based on measurements of the distribution of elements in one or more parameters.
12. (currently amended) The method of ~~any preceding~~ Claim 3 in which each entity in the risk chain is an entity with substantially the properties of an entity selected from the following list of entity types: threat agents; attacks; security breaches; disruptions; damage.
13. (currently amended) The method of Claim 12 ~~when dependent on any of Claims 3–6~~ in which the countermeasure that modifies the threat agent entity or influences the output of that entity is an ameliorative measure.
14. (currently amended) The method of Claim 12 ~~when dependent on any of Claims 3–6~~ in which the countermeasure that modifies the attack entity or influences the output of that entity is a resistive measure.
15. (currently amended) The method of Claim 12 ~~when dependent on any of Claims 3–6~~ in which the countermeasure that modifies the security breach entity or influences the output of that entity is a mitigative measure.
16. (currently amended) The method of Claim 12 ~~when dependent on any of Claims 3–6~~ in which the countermeasure that modifies the disruption entity or influences the output of that entity is an alleviative measure.

17. (currently amended) The method of ~~any preceding~~ Claim 1 in which the target system is a computer.
18. (currently amended) The method of ~~any preceding~~ Claim 1[-16] in which the target system is a computer network.
19. (currently amended) The method of ~~any preceding~~ Claim 1[-16] in which the target system is a telecommunication system.
20. (currently amended) The method of ~~any preceding~~ Claim 1[-16] in which the target system is a mobile communications device or personal digital assistant.
21. (currently amended) The method of ~~any preceding~~ Claim 1[-16] in which the target system is a building, group of buildings, physical infrastructure, means of transport or a transport infrastructure, aircraft or vehicle.
22. (currently amended) The method of ~~any preceding~~ Claim 1[-16] in which the target system is a physical storage container.
23. (currently amended) The method of ~~any preceding~~ Claim 1[-16] in which the target system is a business, business process or business system.
24. (currently amended) The method of ~~any preceding~~ Claim 1 in which an entity in the risk chain describes a population of one or more people who seek or otherwise obtain unauthorised access to the target system or who seek to or otherwise influence it in an unauthorised manner.

25. (currently amended) The method of ~~any preceding~~ Claim 1[-23] in which an entity in –the risk chain describes a population of one or more computer viruses or worms or Trojan Horses or computers.
26. (original) The method of Claim 25 in which a parameter is the age of the virus.
27. (currently amended) The method of ~~any preceding~~ Claim 1[-23] in which an entity of the risk chain describes a population of one or more fires, floods, earthquakes or other physical acts which have an impact on the target system.
28. (original) A method of modelling a specific security threat to a system, comprising the step of modelling a risk chain, the risk chain being a series of two or more entities that each model a discrete part of how a threat leads to damage to the system, each entity being described as a population of elements distributed in a parameter or parameters, each entity generating the next entity in the chain.
29. (original) The method of Claim 28 in which the way one entity in the risk chain generates another entity in the risk chain is described by a quantitative generation function.
30. (currently amended) The method of Claim 28 [or 29] comprising the further step of modelling countermeasures to one or more entities in the risk chain, each countermeasure being quantitatively described as a function of one or more variables.

31. (original) The method of Claim 30 comprising the further step of deploying a countermeasure to an entity in such a manner so that the effect of the entity is diminished to a defined, quantitative level.
32. (currently amended) The method of ~~any preceding~~ Claim 30 [or 31] in which the or each variable describing a countermeasure determines the efficacy of that countermeasure in modifying the population of elements in an entity or influencing how one entity in the risk chain generates another entity in the risk chain.
33. (currently amended) The method of Claim 30[, 31 or 32] in which the deployment of countermeasures is quantitatively optimised.
34. (currently amended) The method of ~~any preceding~~ Claim[s] 28 [- 33] in which the distribution of elements of an entity in a parameter is a measured distribution.
35. (original) The method of Claim 34 in which the measured distribution is a real-time measured distribution.
36. (currently amended) The method of Claim 34 [or 35] in which the measured distribution is compared to a predicted distribution, the comparison enabling the accuracy of an algorithm used to make the prediction to be improved.

37. (currently amended) The method of ~~any preceding Claim[s]~~ 28[- 36] in which the system is controlled by being dynamically altered on the basis of the modelling.
38. (original) The method of Claim 37 in which the controlled system is dynamically altered based on measurements of the distribution of elements in one or more parameters.
39. (currently amended) The method of ~~any preceding Claims 28 – 38~~ Claim 30 in which each entity in the risk chain is an entity with substantially the properties of an entity selected from the following list of entity types: threat agents; attacks; security breaches; disruptions; damage.
40. (currently amended) The method of Claim 39 ~~when dependent on any of Claims 30 – 33~~ in which the countermeasure that modifies the threat agent entity or influences the output of that entity is an ameliorative measure.
41. (currently amended) The method of Claim 39 ~~when dependent on any of Claims 30 – 33~~ in which the countermeasure that modifies the attack entity or influences the output of that entity is a resistive measure.
42. (currently amended) The method of Claim 39 ~~when dependent on any of Claims 30 – 33~~ in which the countermeasure that modifies the security breach entity or influences the output of that entity is a mitigative measure.

43. (currently amended) The method of Claim 39 ~~when dependent on any of Claims 30 – 33~~ in which the countermeasure that modifies the disruption entity or influences the output of that entity is an alleviative measure.
44. (currently amended) The method of ~~any preceding~~ Claim[s] 28 [- 43] in which the system is a computer.
45. (currently amended) The method of ~~any preceding~~ Claim[s] 28 [- 43] in which the system is a computer network.
46. (currently amended) The method of ~~any preceding~~ Claim[s] 28 [- 43] in which the system is a telecommunication system.
47. (currently amended) The method of ~~any preceding~~ Claim[s] 28 [- 43] in which the system is a mobile communications device or personal digital assistant.
48. (currently amended) The method of ~~any preceding~~ Claim[s] 28 [- 43] in which the system is a building, group of buildings, physical infrastructure, means of transport or a transport infrastructure, aircraft or vehicle.
49. (currently amended) The method of ~~any preceding~~ Claim[s] 28 [- 43] in which the system is a physical storage container.
50. (currently amended) The method of ~~any preceding~~ Claim[s] 28 [- 43] in which the system is a business, business process or business system.

51. (currently amended) The method of ~~any preceding~~ Claim[s] 28 [- 50] in which an entity in the risk chain describes a population of one or more people who seek or otherwise obtain unauthorised access to the target system or who seek to or otherwise influence it in an unauthorised manner.

52. (currently amended) The method of ~~any preceding~~ Claim[s] 28 [- 50] in which an entity in the risk chain describes a population of one or more computer viruses or worms or Trojan Horses or computers.

53. (original) The method of Claim 52 in which a parameter is the age of the virus.

54. (currently amended) The method of ~~any preceding~~ Claim[s] 28 [- 50] in which an entity in the risk chain describes a population of one or more fires, floods, earthquakes or other physical acts which have an impact on the target system.

Claims 55 - 64 (cancelled)